PART ONE: POPULATION AND PENSION COSTS

NOTE BY THE GOVERNMENT ACTUARY'S DEPARTMENT

1. This note summarises the financial estimates and associated information used by the Inquiry, and in doing so brings out the nature of the problem facing the Inquiry. This is that the cost of pensions is expected to rise substantially in the future as existing pension schemes mature, thus providing larger pensions. Moreover, this will occur at a time when the proportion of old people in the population is expected to be higher than now. Although both these developments are some way off - the estimates place them in the first quarter of the next century - they are not the artificial result of assumptions incorporated in the estimates, but simply represent the working out of present pension schemes and of the demographic structure of the population as these things exist now. While estimates for over 40 years ahead must contain uncertainties, the general pattern of a substantial increases in emerging pension payments during the first quarter of the next century is secure.

2. In order to make estimates, it is necessary to use assumptions covering the long-term future as to, for instance, the rate at which average earnings and prices will grow, rates of unemployment, and various other factors. These items cannot be forecast with any precision but a set of assumptions has been chosen which is thought to be broadly self consistent and not unreasonable for the longer term, and the effects of variations from these assumptions are given. The assumptions are as follows:

Annual increase in real earnings, ie in excess of the increase in prices	approx.	1½%
Variant assumptions for real earnings	approx.	1%, 2%
Rate of unemployment		6%
Variant assumptions for unemployment		3%, 10%
Population		1981 based population projections

3. The main body of information takes the form of long-term financial estimates. Those for the State scheme derive from the 1982 Quinquennial Review[1] of the scheme with updating adjustments. The estimates for occupational schemes are based on those published in the Journal of the Institute of Actuaries[2]. A detailed account of the methodology and technical assumptions is given in those publications. Two specific assumptions should be noted however. Firstly that minimum pension ages under the National Insurance scheme and normal retirement ages under occupational schemes remain constant; and secondly that both the upper and lower earnings limits under the National Insurance scheme are linked to earnings levels and not to the basic flat-rate pension as the existing legislation provides.

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[1] National Insurance Fund Long-Term Financial Estimates, House of Commons paper 451 of 1981-82.

[2] Journal of the Institute of Actuaries Vol.110 p.243, June 1983.

4. In 1954 the Report of the (Phillips) Committee on the Economic and Financial Problems of the Provision for Old Age (Cmd.9333) estimated that the numbers over the pension ages would increase from 6.89 million in 1954 to 9.50 million 25 years later in 1979. The actual number in 1979 was 9.46 million, or a little higher including GB residents temporarily abroad. The increase in numbers over pension age in the past 25 or 30 years was therefore expected. The same report estimated that there would be 9.33 million persons over pension age in the year 2004, which may be compared with more recent estimates for that year of 9.35 million in the mid-1979 based official projections and 10.10 million in the mid-1981 based official projections (reflecting a recent fall in mortality rates) currently in use in Government Departments. (The numbers at the working ages are higher than Phillips expected because of the high birth rate in the 1960s.)

5. Table 1 below shows the future numbers of children under age 16, the numbers of adults up to age 65 in the case of men and 60 in the case of women (the normal pension ages) and the numbers of pension age, according to the 1981-based population projections in which the numbers ultimately become stationary. The ratio of the number of adults of working age to the numbers over the pension ages, the "support ratio", is shown. The second part of the table shows the numbers contributing to the National Insurance Fund (assuming 6% unemployment) and the numbers in receipt of pensions therefrom on the same basis, including some pensioners resident in other countries.

Table 1 **The "support ratio"**

(i) The numbers of adults of working age in the population per person over pension age.

Year	Children under 16	Adults of working age	Persons of pension age	Ratio
1984-85	11405	33372	9977	3.3
1995-96	12096	33647	10174	3.3
2005-~~15~~06	12387	34113	10139	3.4
2015-16	11706	34347	11153	3.1
2025-26	12274	33636	12344	2.7
Ultimate	12123	33947	12540	2.7

(ii) The numbers of National Insurance contributors (assuming 6% unemployment) per pensioner.

Year	Contributors	Pensioners	Ratio
1984-85	21760	9260	2.3
1995-96	21940	9780	2.2
2005-~~15~~06	22240	9960	2.2
2015-16	22390	11120	2.0
2025-26	21930	12340	1.8
Ultimate	22130	12600	1.8

6. Over the past 30 years the flat-rate retirement pension has increased from about 19% of the average earnings of male manual workers to 22.9%. The movements of earnings and the weekly pension rate at selected times in the period 1948-83 are shown in Table 2. It should be noted that the comparisons are relatively favourable because they are made as at dates of pension upratings; between upratings, now made annually, average earnings increase but the weekly pension does not.

Table 2 **The flat-rate retirement pension for single men in comparison with average earnings and prices 1948-83**

	Average earnings of male manual workers £.p.w.	Flat-rate retirement pension £.p.w.	Pension as a percentage of earnings %	Value of pension 1948=100
1948 July	6.80	1.30	19.1	100
1958 January	12.62	2.50	19.8	125
1969 November	25.00	5.00	20.0	173
1973 October	40.40	7.75	19.2	193
1978 November	87.40	19.50	22.3	231
1983 November	148.70*	34.05	22.9	239

*Estimated

7. In the past 35 years the average earnings of male manual workers and the General Index of Retail Prices have increased respectively by 9.3% and 7.1% a year on average, an annual increase in real earnings of about 2.1%. Average earnings have therefore doubled in value in real terms. If the pension had increased only in line with prices, its value in relation to earnings would therefore have halved. The pension has in fact, more than doubled in real terms, because the average annual increase has been 9.8%, or 2.5% in real terms.

8. Table 3 shows the total flat-rate and earnings-related pension of men retiring in certain years whose earnings every year have been exactly as the average for all male full-time workers (not limited to manual workers as in Table 2) expressed as a proportion of those average earnings at the time the pension is awarded and also 10 and 20 years later. The flat-rate pension included is assumed to increase in future in line only with prices, the minimum increase permissible under the Social Security Acts, in basis (a) and in line with the general level of earnings in basis (b). Table 4 shows corresponding figures for women with the average earnings of all full-time female workers.

9. The earnings-related pension falls in value relative to earnings in the years after it is awarded. On basis (b) the flat-rate pension holds its value relative to earnings throughout but on basis (a) the value of the flat-rate pension falls relative to earnings regularly from 1984-85. This further fall is also illustrated in Tables 3 and 4.

Table 3

Awards of National Insurance flat-rate and earnings-related Retirement Pensions to single men with the average gross earnings of all male full-time workers 1983-2038

	Total pension as a percentage of average earnings					
	Basis (a) flat-rate pension linked to prices			Basis (b) flat-rate pension linked to earnings		
Year of award	At award %	After 10 years %	After 20 years %	At award %	After 10 years %	After 20 years %
1978 or earlier	19.6 (1983)	17.1 (1993)	14.8 (2003)	19.6 (1983)	19.6 (1993)	19.6 (2003)
1983	24.6	21.4	18.6	24.6	24.0	23.4
1988	28.2	24.6	21.4	29.6	28.3	27.2
1993	32.0	27.8	24.2	34.5	32.6	30.9
1998	35.8	31.1	27.1	39.5	36.9	34.7
2018	31.9	27.7	24.1	39.5	36.9	34.7
2038	29.0	25.2	21.9	39.5	36.9	34.7

Notes: (i) For pensions awarded in 1978 or earlier the table shows the percentage in 1983 and 10 or 20 years thereafter.

(ii) Graduated pensions earned for contributions paid in the period 1961-75 have been ignored.

Table 4

Awards of National Insurance flat-rate and earnings-related Retirement Pensions to single women with the average gross earnings of all female full-time workers 1983-2038

Year of award	Total pension as a percentage of average earnings					
	Basis (a) flat-rate pension linked to prices			Basis (b) flat-rate pension linked to earnings		
	At award %	After 10 years %	After 20 years %	At award %	After 10 years %	After 20 years %
1978 or earlier	30.2 (1983)	26.3 (1993)	22.9 (2003)	30.2 (1983)	30.2 (1993)	30.2 (2003)
1983	34.6	30.1	26.2	34.6	34.0	33.5
1988	36.9	32.1	27.9	39.0	37.8	36.8
1993	39.4	34.2	29.8	43.3	41.6	40.1
1998	42.0	36.5	31.7	47.7	45.4	43.4
2018	36.0	31.3	27.2	47.7	45.4	43.4
2038	31.4	27.3	23.8	47.7	45.4	43.4

Notes: (i) For pensions awarded in 1978 or earlier the table shows the percentage in 1983 and 10 or 20 years thereafter.

(ii) Graduated pensions earned for contributions paid in the period 1961-75 have been ignored.

10. The cost of National Insurance pensions may be represented by the notional contribution rate which would be required in order for contribution income, together with a Treasury supplement at 11% of gross contributions, to be sufficient to balance the expenditure year by year.

11. Table 5 below shows the notional class 1 National Insurance contribution rates required to support the cost of benefits payable to persons over minimum pension age (65 for men and 60 for women) together with the cost of contribution rebates to be applied to secure Guaranteed Minimum Pensions for contracted-out persons under pension age. The cost of the contribution rebates ranges from 2.3% of relevant earnings in 1984-85 to 1.3% ultimately. Allowance has been made for the other classes of contributor to pay a corresponding rate of contribution appropriate to their benefit coverage.

The results are shown for two different uprating assumptions for flat-rate benefits as follow:-

(a) flat-rate benefits linked to prices from 1984-85.

(b) flat-rate benefits linked to earnings from 1984-85.

On both bases the upper and lower earnings limits are assumed to be linked to the general level of earnings. On basis (a) therefore the flat-rate pension falls from 100% of the lower earnings limit in 1984-85 (about one-fifth of average male earnings) to 56% in 2025-26 (about one-ninth of AME). Thereafter the decline would continue until the total pension was largely composed of the earnings-related component. In the longer term the contribution rate would be about 21.6 per cent on basis (b) but less than half of that on basis (a) as a result of the decline in value of the flat-rate pension relative to earnings.

Table 5 **Class 1 notional contribution rates for benefits payable to persons over minimum pension age.**

(Per cent of relevant earnings)

Tax Year	(a) Flat-rate pensions linked to prices	(b) Flat-rate pensions linked to earnings
1984-85	12.5	12.5
1995-96	11.9	13.3
2005-06	11.9	14.3
2015-16	13.3	17.0
2025-26	14.7	19.9

12. Table 6 below reconciles the notional Class I contribution rate for 1984-85, shown in Table 5 on the basis of 6% unemployment and excluding the cost of short-term benefits, with the actual joint standard contribution rate to the National Insurance scheme for that year (not counting contributions to the NHS, etc).

Table 6 **Reconciliation of notional contribution rate for 1984-85 with actual rate.**

(i)	Benefits to those over pension age	12.50
(ii)	Benefits to those under pension age	3.40
(iii)	Unemployment level 12.7% instead of 6%	1.85
(iv)	Other items	- 0.10
(v)	Actual Class I standard contribution rate	17.65

13. The effect on the notional Class I contribution rates shown in Table 5 of making alternative assumptions about the annual rate of increase in real earnings is shown in Table 7 below for variations of +½% and -½% approximately.

Table 7 **Percentage change in notional contribution rates resulting from making different economic assumptions**

Change in assumption	**Percentage change in contribution rates (see footnote)**			
	1995-96	**2005-06**	**2015-16**	**2025-26**
Real earnings increase 2% per annum:				
Basis (a) (prices)	-2.5%	-6.0%	- 9.0%	-11.0%
Basis (b) (earnings)	-0.5%	-1.0%	- 1.5%	- 2.0%
Real earnings increase 1% per annum:				
Basis (a) (prices)	+4.5%	+8.0%	+10.5%	+12.5%
Basis (b) (earnings)	+0.5%	+1.0%	+ 1.5%	+ 2.0%

Note: The percentages in the table (and in paragraph 14 below) are not additions to or deductions from the percentage contribution rates in Table 5. They are proportionate changes in those contribution rates.

14. The effect of changing the unemployment rate assumption from 6% to 10% is to change the contribution rates in all years by +6%. The effect of changing the unemployment rate to 3% is to change the contribution rates in all years by -4%.

15. The effect of changing the demographic assumptions is shown in Table 8 below.

Table 8 **Percentage change in contribution rates resulting from making different assumptions on future fertility and mortality**

Change in assumption	Expectation of life at pension age reached in 2020–2021	Percentage change in contribution rates (see note 2)			
		1995–1996	2005–2006	2015–2016	2025–2026
Long-term fertility rate 1.80	M 15.3 F 23.4	-	+2.5%	+5.5%	+8.5%
Long-term fertility rate 2.30	M 15.3 F 23.4	-	-2.5%	-5.0%	-7.0%
12.5% fall in pensioners' mortality	M 14.0 F 22.0	-2.0%	-3.5%	-5.0%	-6.5%
37.5% fall in pensioners' mortality	M 16.9 F 25.1	+2.0	+3.5%	+5.5%	+7.0%

Notes: (1) The principal projection assumed a long-term fertility rate of 2.10 and a 25% fall in pensioners' mortality, (expectation of life at pension age reached in 2020-2021 male 15.3, female 23.4).

(2) The percentages in the table are not additions to or deductions from the percentage contribution rates in Table 5. They are proportionate changes in those contribution rates.

16. The notional contribution rates in Table 5 and those obtained by making the percentage changes set out in Tables 7 and 8 and described in paragraph 14 for selected combinations of variant economic and demographic assumptions are illustrated graphically in Figure 1(a) where flat-rate pension is linked to prices and figure 1(b) where flat-rate pension is linked to earnings.

17. Estimates of expenditure in future years on occupational pensions, based on a model of the workforce constructed in the Government Actuary's Department, have been published in the Journal of the Institute of Actuaries[1]. The model drew upon all known sources of information on job changes and careers in employments where there was a contracted-out pension scheme, a pension scheme which lived on top of the State scheme or no pension scheme at all. Those estimates together with the estimated cost of state scheme benefits, are expressed as percentages of the country's total wages and salaries in Table 9. The figures shown for future years are on the principal assumptions described in paragraph 2.

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[1] Journal of the Institute of Actuaries Vol.110 p.243, June 1983.

Table 9 **Pension and lump sum benefits as a percentage of total wages and salaries**

(Per cent)

	1961	1981	2005–2006	2015–2016	2025–2026
Basis (a) Flat-rate benefits linked to prices					
National Insurance Scheme*:					
(i) flat-rate benefits	5	9½	7½	7½	7½
(ii) earnings-related benefits	0	0	2½	4½	5½
Occupational Schemes:					
(iii) public service **	1	1½	2	2½	3
(iv) other	1	3	4	4½	5
Total (i) - (iv)	7	14	16	19	21
Basis (b) Flat-rate benefits linked to earnings					
National Insurance Scheme*:					
(i) flat-rate benefits	5	9½	10	11	12½
(ii) earnings-related benefits	0	0	2½	4½	5½
Occupational Schemes:					
(iii) public service **	1	1½	2	2½	3
(iv) other	1	3	4	4½	5
Total (i) - (iv)	7	14	18½	22½	26

* Ignoring supplementary and housing benefits paid from the Consolidated Fund.

** Includes only the unfunded pensions increase payments of the Local Government Superannuation Scheme.

18. The figures for occupational pensions represent the total expenditure from occupational pension schemes in respect of persons over State pension age, including lump sums payable on retirement. They also assume that current benefit provisions are not improved (which implies that current contributions to private sector schemes will fall). Assuming early-leavers' pensions to be increased at a rate of 5 per cent per annum up to retirement as proposed, the percentages of wages and salaries in Table 9 gradually increase, eventually becoming about ½ per cent higher - eg 8 in the final column for (iii) plus (iv) becomes 8½. (The increase is small because public sector deferred pensioners already have price protected pensions and in the private sector the GMP part of the pension is protected.) If occupational pensions in payment are increased in line with prices then the percentages for occupational pensions would be increased for 2005 and later years by about a further 1/4 per cent. (This again is small because most pensioners already receive regular pension increases.)

19. Expressing the figures in Table 9 as the average annual amount per person over pension age gives the figures shown in Table 10, assuming no improvement in occupational schemes.

Table 10 **Projected pensions per head (all figures expressed in terms of 1984-85 earnings)**

(£ thousand)

	1984–1985	1995–1996	2005–2006	2015–2016	2025–2026
Basis (a) Flat-rate benefits linked to prices					
National Insurance Scheme:					
(i) flat-rate benefits	1.6	1.5	1.3	1.2	1.0
(ii) earnings-related benefits	0	.1	.4	.6	.8
Occupational Schemes:					
(iii) and (iv) public service and other	.7	.9	1.0	1.1	1.1
Total (i) - (iv)	2.3	2.5	2.7	2.9	2.9
Basis (b) Flat-rate benefits linked to earnings					
National Insurance Scheme:					
(i) flat-rate benefits	1.6	1.7	1.7	1.7	1.7
(ii) earnings-related benefits	0	.1	.4	.6	.8
Occupational Schemes:					
(iii) and (iv) public service and other	.7	.9	1.0	1.1	1.1
Total (i) - (iv)	2.3	2.7	3.1	3.4	3.6

20. Because the figures in Table 10 relate to the 1984-85 level of earnings, the figures for all years may be compared with average earnings in 1984-85, which might be £9,500 for men and £6,200 for women working full-time. The table shows how the pension income of the elderly will rise in relation to earnings, significantly so on basis (b) though less so on basis (a) when the National Insurance flat-rate pension is linked only to prices.

21. Because 1½% per annum growth in real earnings is assumed, both average earnings and the pensions per head in the future years shown in Table 10 would purchase more than the same amounts now. However for some purposes it is useful to present the results in terms of constant prices rather than constant earnings and this is done in Table 11 below. In that table, average real earnings are shown increasing at 1½% per annum in future and all the figures in Table 10 have been similarly converted to show their purchasing power in relation to 1984-5.

Table 11 **Projected pensions per head (all figures expressed in terms of 1984-85 prices)**

(£ thousand)

	1984-1985	1995-1996	2005-2006	2015-2016	2025-2026
Basis (a) Flat-rate benefits linked to prices					
National Insurance Scheme:					
(i) flat-rate benefits	1.6	1.7	1.7	1.8	1.8
(ii) earnings-related benefits	0	.2	.5	1.0	1.4
Occupational Schemes:					
(iii) and (iv) public service and other	.7	1.0	1.3	1.7	2.0
Total (i) - (iv)	2.3	2.9	3.5	4.5	5.2
Basis (b) Flat-rate benefits linked to earnings					
National Insurance Scheme:					
(i) flat-rate benefits	1.6	1.9	2.3	2.6	3.0
(ii) earnings-related benefits	0	.2	.5	1.0	1.4
Occupational Schemes:					
(iii) and (iv) public service and other	.7	1.0	1.3	1.7	2.0
Total (i) - (iv)	2.3	3.1	4.1	5.3	6.4
Average earnings:					
Men	9.5	11.1	12.7	14.7	16.9
Women	6.2	7.2	8.3	9.6	11.0

22. The elderly would have other sources of income, including supplementary and housing benefits and would of course suffer income tax. But the projection of these items is considered in Part Two.

PART TWO: PENSIONERS' INCOMES

by DHSS ECONOMIC ADVISERS' OFFICE

Introduction

1. Part One of this paper by the Government Actuary covers future levels and costs of national insurance (NI) and occupational pensions paid to people over state pension age. Part Two takes a wider look at the resources that determine individuals' living standards and in particular compares the spending power of people over pension age ('pensioners') with that of people below pension age ('non-pensioners').

2. The total resources available to the population for personal spending and saving are described in this paper as 'total personal disposable income' (TPDI); it is made up of

- earnings and income from self-employment
- income from savings and investments
- pensions (NI and occupational)
- other social security benefits.

Private transfers of income within families are not included in TPDI.

3. TPDI is a net figure; it represents spending power after deduction of the income tax, NI and occupational pension contributions that individuals pay. These deductions are, of course, higher on average for the working population than for pensioners, and so the difference between the net disposable incomes of pensioners and non-pensioners is smaller than the difference between their gross incomes.

4. But individuals' living standards also depend on the number of people sharing household income and spending, and there is an important difference here. Pensioners usually support only themselves and their spouses, but people below pension age often support children and adult dependants as well. There are several methods of allowing for this difference. The method used here is based on what is known about individual spending patterns. Comparisons of the average income of pensioners and non-pensioners in this paper

- divide pensioners' share of TPDI by the number of people of pension age
- divide non-pensioners' share of TPDI by the number of adults between 16 and pension age plus half the number of children under 16.

So pensioners and adults of working age are given equal weight, but children under 16 count as half an adult and are all assumed to depend on people below pension age.

5. The approach here is to compare pensioners with the rest of the population. Individual pensioners may not see their own living standards this way. Newly retired people in particular may compare their current position with their working income immediately before retirement, when both husband and wife may have been earning and children were no longer financially dependent. Such comparisons may be important to the individual at the time and to a person's pre-retirement planning. But they do not take account of the costs of raising children. Moreover older pensioners, who have been retired longer, may be more interested in comparing themselves with the current population below pension age than in their own incomes when last at work. (Some alternative comparisons excluding children are shown below.)

6. Further details about the methods and assumptions used to calculate TPDI are in the Annex to this paper. The rest the paper is concerned with

i. what has been happening to pensioners' incomes since 1951

ii. more information about pensioners' incomes today

iii. projections of pensioners' incomes up to 2025/6

iv. the outlook for home ownership by pensioners.

Pensioners' incomes since 1951

7. Pensioners' share of overall TPDI has more than doubled since 1951 (see Table 1 below). This reflects both the growth in the number of pensioners (they now account for 18% of the population compared with 13½% in 1951) and their rising incomes. Pensioners' disposable income per head has nearly tripled since 1951 when measured in real terms, compared with an increase of only two-thirds for people below pension age.

Table 1 **Growth of pensioners' incomes since 1951**

Percentages

	Pensioners' share of			Growth in real disposable income per head in previous 10 years		Pensioners' disposable income per head relative to non-pensioners
	total population	total adult population	TPDI	pensioners	non-pensioners	
1951	13½	17½	7	-	-	41
1961	14½	19	8½	48	31	47
1971	16½	21½	11½	42	16	57
1981/2	17½	23	14½	31	10	68
1984/5*	18	23	15	n.a.	n.a.	69

Notes i. TPDI = total personal disposable income
ii. n.a. = not available
iii. * = projection

8. Pensioners' disposable income per head is now about 70% that of non-pensioners up from about 40% in 1951. Those comparisons between pensioners and the rest of the population allow for the costs of raising

children, but - following from the discussion in paragraph 5 above - an alternative approach might be to ignore the cost of children and compare pensioners' income per head with income per adult below pension age. This would show pensioners in a less favourable position, but even so, relative to adults below pension age, their position has still improved since 1951. Pensioner disposable income per head is up from about 35% of income per adult below pension age in 1951 to just under 60% now.

9. However it is measured, pensioners' disposable income relative to non-pensioners has improved substantially since 1951. To some extent this is because, for a number of reasons, there has been a decline in the proportion of adults below pension age who are in full-time work. (By contrast, the number of families with two earners has increased.) The main source of the improvement is due though to the growing value of NI basic pension compared with average take-home pay. Basic pension has risen from about a fifth of average net earnings for a single male manual worker in 1951 to about a third now; for a married male manual worker it is up from less than a third to about half now (see Table 2 below). This is a more rapid increase than shown in the Government Actuary's Table 2 in Part One which compares basic pension with gross earnings before deductions: the difference between the tables simply reflects the changing share taken by income tax and NI contributions.

Table 2 Basic pension as a percentage of average net earnings for a male manual worker 1951-1981/2

	Single Man	Married Man
	%	%
1951	20	30
1961	23	35
1971	24	37
1981/2	33	50

Notes:

i. TPDI is net of workers' occupational pension contributions. The comparisons in this table are not.

ii. The percentages are based on average rates of pension during each year taking account of pension increases in the course of the year.

iii. Comparisons with the average earnings of all male workers - manual and non-manual - are only available for recent years. In 1981/2 these would have shown values of 29% and 44% for the single and married man respectively.

10. NI pensions and other social security benefits have risen as a proportion of pensioners' total gross income, from around 40% in 1951 to about 60% now. Occupational pensions have also contributed to the rise in pensioners' incomes and are up from less than a sixth to almost a quarter of their total gross income. But employment and investment income have declined in relative importance (see Table 3 below).

Table 3 Main components of pensioners' total income since 1951

Percentages of total gross income

	NI retirement pension	Other social security benefits	Total income from State	Occupational pensions	Earnings	Investment income	Income tax etc
1951	35	8	42	15	27	15	12
1961	41	6	48	16	22	15	10
1971	40	7	48	21	18	13	11
1981/2	47	12	59	21	10	10	11
1984/5	49	11	60	22	9	9	11

Notes:

i. 'Other social security benefits' are mainly supplementary and housing benefit: growth in the 1970s was due particularly to housing and disability benefits.

ii. 'Income tax etc' includes the NI contributions that used to be paid by workers over pension age until 1978.

iii. Figures for 1984/5 are projections.

iv. Sub-totals may not add to totals due to rounding.

11. Comparisons of incomes before 1951 are more difficult because much less information about individuals' incomes was collected then. But pre-War studies suggest old age was a less important cause of low income than unemployment, low pay and large families. Partly this reflects the relatively fewer old people then in the population.

The incomes of pensioners today

a. disposable income

12. Individuals' incomes differ substantially from the average, and a special analysis has been made for this paper of the spread of incomes in 1982 - the most recent year for which such information is available (see Annex for more details). This shows that when allowance is made for the numbers of adults and children dependent on each income

- many pensioners are as well off as workers and their families (half of the pensioners had incomes above the poorest 10% in work)

- pensioners are in general a quarter better off than people below pension age who are not in work (the unemployed, disabled, lone parents, etc) but

- few pensioners are very well off (only one in ten has an income above the average for working families)

- few workers and their families have incomes as low as most pensioners (only a fifth of working families are below the average pensioner income).

13. These findings show that, although the general position of pensioners has improved considerably in the last thirty years, many pensioners still have relatively low incomes. For most pensioners, for example, the NI basic pension is their largest single source of income (for a majority basic pension forms 60% or more of their total pre-tax income). One in five pensioners has income topped up by supplementary benefit, including a third of widows (see Table 4 below). About two-thirds of pensioner households receive housing benefit (including those getting both housing and supplementary benefit).

Table 4 Proportion of pensioners supported by supplementary benefit in 1982 by age, sex and marital status

Percentages

	Married couples	Lone men	Widows	Other lone women	All pensioners
60-64	-	-	23	27	25
65-69	9	20	33	28	15
70-74	14	21	42	31	23
75-79	17	28	43	27	28
80+	18	20	38	21	26
All ages	13	22	35	27	23

Note: Single people (ie widowed, unmarried, separated and divorced) are included in this table if they are over pension age and married couples if the husband is 65+. Couples are classified by age of husband.

14. The spread of disposable income amongst married couples with husbands over pension age ranged in 1982 from about £60pw for the lowest fifth to about £150pw for the highest fifth (these are the amounts couples had between them, not the amount per head). This spread was rather smaller for women pensioners on their own who did not have husbands (see Table 5 below).

Table 5 The distribution of disposable income amongst people over pension age in 1982

£ per week

	Married couples	Lone men	Lone women
Lowest fifth	57	34	32
Middle fifth	75	48	45
Highest fifth	152	91	77

See note to table 4.

On average, couples over pension age had about £88pw disposable income in 1982, other men about £55pw and other women about £50pw, but in each of these categories the youngest - those just over pension age - tended to be better off than those aged 75 and over (see Table 6 below).

Table 6 Average disposable income by age, sex and marital status in 1982

£ per week

Age	Married couples	Lone men	Lone women
60-64	-	-	57
65-69	96	67	49
70-74	86	54	49
75+	78	47	46
All ages	88	55	49

See note to table 4.

15. People who are not much above pension age tend to be better off than older pensioners partly because a higher proportion of them still have earnings - some have yet to retire, others are working part-time - and because younger pensioners are more likely to have occupational pensions. Married couples and lone men - whatever their ages - are also much more likely to have occupational pensions than lone women; almost two-thirds of couples have such pensions compared with one-third of lone women (see Table 7 below).

Table 7 Proportion of people over state pension age with income from employment or self-employment and from occupational pensions

Percentages

Age	Married couples	Lone men	Lone women
	EMPLOYMENT AND SELF-EMPLOYMENT		
60-64	-	-	23
65-69	26	21	6
70-74	17	9	5
75+	8	4	1
All ages	18	10	6
	OCCUPATIONAL PENSIONS		
60-64	-	-	40
65-69	70	62	37
70-74	60	63	34
75+	59	43	28
All ages	64	54	33

See note to table 4.

Although some two-thirds of pensioners receive income from their own savings and investments, this is often only a relatively small proportion of their total income. All but a few per cent receive NI retirement pension.

b. indirect taxes and benefits in kind

16. The calculation of TPDI does not take into account indirect taxes (eg value added tax, excise duties and rates) paid by pensioners and others, nor the use they make of free or subsidised services (eg the national health service and state education). There are major technical difficulties in allocating the value of such taxes and benefits to individual households, but available evidence from the Central Statistical Office (CSO) for 1982 suggests

- pensioners and non-pensioners on average pay similar proportions (about a quarter) of their disposable incomes in indirect taxes

- the cost of providing benefits in kind from central and local government is equal to about a quarter of the average disposable income for pensioners, but less than a sixth for non-pensioners.

This indicates that adjusting for indirect taxes and benefits in kind would make the position of pensioners relative to non-pensioners look better than comparisons based on TPDI alone. Today's average pensioner would have an income around three-quarters that of the average non-pensioner measured in this way, compared with a little over two-thirds measured in terms of TPDI per head. The CSO evidence also suggests that, whereas pensioners tend to pay a broadly similar proportion of their disposable income in indirect taxes whatever level their income, benefits in kind are proportionately more important to low income pensioners than to those who are better off.

Pensioners' incomes in the future

17. As the Government Actuary notes, there is considerable uncertainty in making projections for very long periods ahead. The projections shown here start from the Government Actuary's estimates given in Part One for NI and occupational pensions and use the same demographic and economic assumptions. Selection of assumptions for other sources of income (apart from NI and occupational pensions) taken into account below involves a higher degree of judgement. The chosen assumptions are discussed further in the Annex. No changes are assumed in state pension ages or in the normal retirement ages of occupational schemes. As pensioners' incomes increase they will tend to pay more income tax, and it is assumed for these calculations that the effect is to allow income tax to be reduced pro rata for all taxpayers.

18. Projections of the future levels of pensioners' incomes are shown below - as in Part One - on the basis of alternative assumptions about the uprating of flat-rate and means-tested social security benefits (including basic pension)

- in line with the rise in retail prices ('prices uprating')
- in line with the rise in gross national average earnings ('earnings uprating').

The difference between these two projections is likely to be exaggerated because of the impact of different upratings of basic pension on other forms of retirement provision and on the ages at which people retire. The more generous the future level of basic pension, the less people would tend to save for retirement (either through pension schemes or on their own) and the earlier they would tend to retire. But no allowance has been made for these affects.

a. central assumptions

19. The central assumptions are those set out by the Government Actuary in Part One, the main economic ones being 1½% pa real earnings growth and an unemployment rate of 6%.

20. Pensioners are projected not to increase as a proportion of the population before the second decade of the next century. It is only then that with either prices or earnings upratings their share of TPDI should rise significantly. On the assumptions used here, with prices uprating their share would reach 17½% in 2025/6 compared with 15% now; with earnings uprating pensioners' share of TPDI in 2025/6 (20%) would almost match their projected proportion of the total population but would be less than their proportion of the adult population (27%). (See Table 8 below.)

Table 8 Pensioners' future share of total income (real earnings 1½% pa, unemployment 6%)

Percentages

	Pensioners as % of		Pensioners' share of TPDI	
	total population	total adult population	prices uprating	earnings uprating
1984/5:				
u/e = 12.7%	18	23	15	15
6%			14½	14½
1995/6	18	23	14½	15
2005/6	18	23	14½	15½
2015/6	19½	24½	16	17½
2025/6	21	27	17½	20

Note: u/e = rate of unemployment. 12.7% is the current rate and 6% the long term assumption.

21. With prices uprating pensioners' disposable income per head is projected to rise in real terms by about 80% by 2025/6 because of the maturing of both NI earnings-related and occupational pension schemes. This is much the same as that projected for non-pensioners. With earnings-linked uprating however the rise in pensioners' average income would be about 110% (with poorer pensioners getting relatively more advantage than others) against an increase of about 75% for non-pensioners. The smaller increase for non-pensioners with earnings uprating would result from their paying for the higher NI basic pensions.

22. The assumption that unemployment drops to 6% from about 13% currently implies that the population of working age becomes better off as more of them find work and leads to a once-and-for-all rise in the projected average income of non-pensioners. That aside:

- with prices uprating the position of pensioners relative to non-pensioners should improve slowly over the period up to 2025/6 (although real living standards for both groups should improve substantially). Further ahead pensioners' relative position would start to decline once earnings-related pensions reached full maturity and basic pension continued to lag behind earnings

- with earnings uprating pensioners' relative position would be a little better than with prices uprating until the end of the century with a widening gap after then, reaching about 80% of the non-pensioner average in 2025/6. (See Table 9 below.)

Table 9 Projected growth in pensioners' incomes (real earnings 1½ pa, unemployment 6%)

Percentages

	BENEFITS PRICES LINKED			BENEFITS EARNINGS LINKED		
	Growth in real disposable income per head in previous 10 years		Pensioners' disposable income per head relative to non-pensioners	Growth in real disposable income per head in previous 10 years		Pensioners' disposable income per head relative to non-pensioners
	pensioner	non-pensioner		pensioner	non-pensioner	
1984/5:						
u/e = 12.7%	na	na	69	na	na	69
6%	na	na	65	na	na	65
1995/6	14	15	65	20	15	69
2005/6	19	15	67	23	15	74
2015/6	18	17	68	21	16	77
2025/6	16	14	69	19	13	81

See note to table 8.

Similar trends are found if the alternative approach (described at paragraph 8 above) is used of excluding the cost of raising children from comparisons of pensioner and non-pensioner incomes. With prices uprating pensioners' disposable income per head would rise slightly relative to that of adults of working age but would not exceed 60% of the latter's value; with earnings uprating the rise would be greater to just under 70% of disposable income per adult of working age in 2025/6.

23. Some will gain more than others from increased pensions and some may gain little at all. For example, those who are already retired will not receive the larger NI earnings-related and occupational pensions that will be awarded. Many of those who retire over the next decade will have only small NI earnings-related pensions because they will have had much less than the 20 years of earnings since 1978 required to earn a 'full' award. But there should be a gradual decline in the number of pensioners receiving supplementary benefit to top up their incomes. Assuming supplementary benefit continues to be uprated in line with basic pension, the total of pensioners on supplementary benefit should fall from about one-and-three-quarter million now to around a quarter of a million in 2025/6.

24. The alternative uprating assumptions produce different results in the projected composition of pensioners' income. With prices linking, total State benefits would fall slowly as a proportion of pensioners' gross income. Given earnings linking and 1½% growth, however, total State benefits would rise to nearly two-thirds in 2025/6. Occupational pensions should continue to grow in importance whether state benefits are prices or earnings uprated, and employment and investment income are projected to continue their relative decline. (See Table 10 below.)

Table 10 Projected composition of pensioners' incomes

Percentages of total gross income

	State benefits				Occupational pensions	Employment and investment income	Income tax
	Basic pension etc*	Earnings related pension	Other benefits**	Total State benefits			
	BENEFITS PRICE LINKED						
1984/5	48½	½	11	60	22	18	11
1995/6	43	4	10	57	26	17	11
2005/6	36	11	9	56	27	17	11
2015/6	31	17	7	55	29	15	12
2025/6	27	22	6	55	31	14	12
	BENEFITS EARNINGS LINKED						
1984/5	48½	½	11	60	22	18	11
1995/6	46	4	10	60	24	16	12
2005/6	43	10	8	61	25	14	13
2015/6	41	15	6	62	25	12	14
2025/6	40	18	5	63	26	10	14

Notes: i. Real earnings grow 1½% pa; rate of unemployment is 6% from 1995/6.

ii. * = basic pension plus graduated pension (from the pre 1975 scheme) and 'Christmas Bonus'.

iii. ** = mainly supplementary, housing and disability benefits.

b. alternative economic assumptions

25. Under prices uprating of benefits, varying the assumed rate of economic growth has little impact on the projected real value of pensioner incomes, but the position of pensioners relative to the working population would obviously decline the faster that real earnings rose.

	Growth in real earnings pa		
	1%	1½%	2%
Pensioners' disposable income per head as a percentage of non-pensioners in 2025/6 with prices uprating and 6% unemployment	74	69	64

With earnings uprating pensioners' real incomes would rise most when earnings grew fastest, but their relative position would be much less sensitive to different rates of real earnings growth than with prices uprating. Although changing the unemployment assumption affects the relative position of pensioners (as noted in paragraph 22 above) it has little direct impact on their real incomes.

Owner occupation

26. Fewer pensioners live with their families than ever before. About three-quarters of pensioners now live in their own homes or rent them.

27. In 1981 the proportion of owner-occupiers among households where the head was of pensionable age is estimated at 48% (about 50% of married couples and 40% of others, mainly widows living alone). These figures are based on the Labour Force Survey (LFS), but preliminary data from the 1981 Census indicate these proportions may be slightly low. Estimates based on the LFS suggest however that by 2016, if present trends and policies continue, about 70% of all pensioner households are likely to be owner-occupiers (about 80% of married couples and 60% of others). This should mean a rise in spending power (beyond that measured by changes in TPDI) with more pensioners freed of rent, but to some extent the gain will be offset by the need to pay for maintenance and insurance.

METHODS, SOURCES AND ASSUMPTIONS

A1. This annex describes the main features of the methods and assumptions used to estimate levels of pensioners' incomes and compare them with the incomes of the rest of the population. It also gives sources of information used.

Total personal disposable income (TPDI)

A2. TPDI covers in principle all income received by the household population from other sectors of the economy ie companies, pension funds and government. It comprises the following:

direct money income received from work and property
plus some income in kind (eg fringe benefits)
plus pensions, social security benefits and other current transfers received by the household sector
less income tax and national insurance and occupational pension contributions.

Estimates of TPDI using this definition are given in table 4.4 of the National Income 'Blue Book'*. Unlike the Blue Book, however, the calculations here take housing benefit and its predecessor schemes fully into account.

A3. The main steps in calculating the relevant amounts of TPDI can be summarised as follows

- first, TPDI for all households is estimated for each of the years selected for analysis
- second, TPDI received by pensioners (ie all people over state pension age) is estimated and
- third, pensioners' TPDI is subtracted from the total for all households to give the amount received by the rest of the population.

These aggregate amounts are converted into shares of the total; in addition amounts are calculated per head for the pensioner and non-pensioner populations (counting a child as half an adult) which in turn are used to compare pensioners as a group with non-pensioners. Disposable income per pensioner is projected at a little over £2,800 for 1984/5, for non-pensioners at about £4,100.

Forward projections of TPDI

A4. The estimates for 1984/5 and ahead are highly dependent on the assumptions made. They are based on fairly straightforward projections of the various income sources from current or recent levels. The starting points for the projections are the Government Actuary's estimates of NI and occupational pensions described in Part One which take into account only anticipated demographic changes, known commitments and occupational schemes' current practice. The projections also allow for higher NI earnings-related and occupational pensions reducing pensioners' dependence on means-tested benefits and for the increased income tax they will pay as their incomes improve.

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*Central Statistical Office, National Income and Expenditure, published annually by HMSO, London.

A5. Changes in economic behaviour would be expected in response to rising pensions (such as earlier retirement) but it is possible to make only a limited allowance for these. First, higher pensions are assumed to lead to a continued decline in the proportion of people over pension age who work. Second, increased occupational pensions are assumed to replace some of the income pensioners receive from savings and investments as such saving for retirement tends to be reduced when people have better pension expectations.

The impact of NI earnings-related pensions

A6. Most of the new pension rights conferred under the 1975 Social Security Pensions Act concern NI earnings-related pensions known as additional component (AC). All employees, whether contracted in or out of the full state scheme, began to earn rights to AC in April 1978, but contracted-out employees also began earning rights to the guaranteed minimum pensions (GMPs) that will be paid by their occupational scheme when they reach state pension age. People who reach state pension age after 1978/9 receive as their earnings-related state pension the total of any GMPs they have earned (the equivalents of which occupational schemes might have paid anyway without the encouragement of the 1975 Act) plus the balance remaining after GMP has been deducted from their AC. The latter, known as 'net AC', is the amount actually paid from the NI fund.

A7. Payments of state earnings-related pensions from the NI fund are not limited to people who are full members of the state scheme. On the central assumptions used here about half of the expenditure from the NI fund on earnings-related pensions will eventually be for people who had periods of contracted-out employment and their surviving spouses. This is due to the arrangements whereby the NI fund bears the cost of (a) inflation proofing, (b) basing pension awards on the '20 best' years rather than career average as in the case of GMPs and (c) better inheritance provisions for widows and widowers than apply for GMPs.

Comparisons of pensioners' and non-pensioners' incomes

A8. This section explains why children count as half an adult in calculating TPDI per head for non-pensioners.

A9. For long-term comparisons between pensioners and non-pensioners it is reasonable to assume that the incomes of pensioners have only themselves to support but that the incomes of the rest of the population meet the needs of all other adults and of children. It is not possible to make detailed allowance for the relative costs of each individual household when comparing incomes across long periods, and it is assumed that on average the cost of keeping adults is the same, whether pensioner or non-pensioner, and that the cost of keeping children under 16 is half that of keeping an adult.

A10. This approach is based on detailed analysis of spending patterns. The relative costs of keeping adults and children vary in practice with such factors as age and the ability to share household overheads (eg rent and fuel) with others. These differences in relative costs can be measured by 'adult equivalence scales' based on investigation of individual households' spending patterns, and the relative weights for pensioners, working-age adults and children used in calculating income per head are averages of these more detailed scales.

A11. A special analysis for 1982 adjusted each family's income using these scales to give a distribution of 'income per adult equivalent' from which the findings in paragraph 12 of the main text are taken (see Table A1 below).

Table A1 **The distribution of disposable income in 1982 adjusted for the number of people dependent on each income**

£ per week per adult equivalent

Proportion of cases with incomes below the value shown*	Pensioners	Non-pensioners			Total population
		Working	Not in work	All	
10%	34	42	21	31	32
25%	39	53	26	45	42
50%	46	69	36	62	57
75%	56	93	49	88	82
90%	75	123	68	117	110
Average value	51	79	41	71	66

Note: * = eg 10% of pensioners had less than £34 per week per adult equivalent, 25% had less than £39, 50% (a half) had less than £46, etc.

Source: Special analysis of the 1982 Family Expenditure Survey.

Information sources

A12. The 1982 Family Expenditure Survey - the latest available - provides the detailed information on income patterns used in Table A1 above and in Tables 5, 6 and 7 of Part Two. It is a voluntary sample survey in which income reporting is, to varying degrees, less reliable than in the national accounts from which estimates of TPDI are taken. Participation of the elderly in the survey is also considerably lower than for younger people. Thus, although the Family Expenditure Survey provides useful detail of income patterns, as a check on calculations of TPDI based on the national accounts it gives similar rather than identical results.

A13. Table 4 in Part Two, showing the proportion of pensioners of different age and marital status supported to some extent by supplementary benefit, is based on DHSS's December 1982 statistical enquiry and the Government Actuary's population estimates. Although a married couple counts as one supplementary benefit case, the column for 'all pensioners' in this table includes both partners where the husband is 65+. In contrast, the total of supplementary benefit cases quoted in paragraph 23 of Part Two counts a married couple as one case.

Sensitivity of TPDI calculations to method and assumptions

a. coverage of TPDI

A14. Although TPDI is in principle a comprehensive measure of income received by the household population, it does not cover all the resources available to an individual viz:

i. TPDI does not take into account indirect taxes people pay nor the benefits in kind they receive from government-provided services. As noted in the main text, the net effect of allowing for these items would be to raise pensioners' incomes relative to non-pensioners' compared with their relative position measured in terms of TPDI per head*.

ii. However, working in the opposite direction to (i) above is the fact that a certain amount of economic activity and earnings from it ('the hidden economy') are not fully covered in official statistics; this is likely to benefit people of working age more than pensioners. In addition, the figure for income in kind (also received mainly by the working population) entered in the national accounts is relatively unreliable and a probable underestimate of the true value. The effects on the measures of pensioners' relative income used here are likely to be small, however.

iii. TPDI does not include private transfers of income between and within households whether in cash or kind. It is possible that, as pensions from the state and from occupational schemes improve relative to the incomes of the working population, the latter have in the past (and will in the future) become less inclined to support elderly relatives in these ways or that pensioners themselves find less need to seek such help. The fact that fewer pensioners share households with younger relatives than before would also tend to reduce the amount of income sharing between generations. For these reasons it is possible that the rise in pensioners' TPDI shown in the long-term estimates - both historically and for the future - may overstate the increase in their total resources including private transfers. But there is very little evidence to elaborate these points.

iv. No account is taken of assets owned by the pensioner and non-pensioner groups other than through recorded receipts of the rent, dividends and interest earned from them. Changes in capital values that may be equally important to a person's command over resources are excluded, and the adjustment of TPDI to a constant price basis makes no allowance for any loss or gain in real value of savings and investments held by the public. It is not known how allowing for this would alter pensioners' measured share of total income.

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*See 'The effects of taxes and benefits on household income, 1982' in Central Statistical Office, Economic Trends No 361, November 1983 published by HMSO.

b. allocation between pensioners and the rest of the population

A15. Various sources of information have been used to allocate income between the two groups. But three points should be noted:

i. Life assurance benefits are included in the 'Blue Book' estimates of TPDI and have been allocated to the population below pension age in the calculations here. In practice, pensioners receive some of these benefits but the likelihood is that the proportion would be small. If life assurance benefits had been omitted altogether from TPDI, the effect would have been for 1984/5 to raise pensioners' share of TPDI to about 15½% and their disposable income per head to about 72% of non-pensioners (compared with 15% and 69% respectively shown in the main text).

ii. On the other hand, all lump sum benefits paid by occupational pension schemes to people on retirement (which are included as part of TPDI) have been allocated to people over state pension age, although some proportion of them are paid to people below state pension age who have retired at earlier ages. The division of these payments between people above and below state pension age is unknown although the likelihood is that most would go to people over pension age. If such lump sums had been excluded from TPDI, pensioners' share would have been reduced to a little over 14% in 1984/5 and their disposable income per head to about 65% of non-pensioners.

iii. The adult equivalent scales referred to above take into account only households' spending on current consumption and make no allowance for the saving people of working age make for their own retirement or for home purchase. If such an allowance were made, pensioners would appear better off relative to non-pensioners than shown here.